ACCESSION #: 9902100089

NON-PUBLIC?: N

LICENSEE EVENT REPORT (LER)

FACILITY NAME: Clinton Power Station PAGE: 1 OF 4

DOCKET NUMBER: 05000461

TITLE: Offsite Fault on In-service Offsite Electrical Supply

Line Causes Loss of Offsite Power to Safety-Related

Electrical Buses

EVENT DATE: 01/06/99 LER #: 1999-002-00 REPORT DATE: 02/04/99

OTHER FACILITIES INVOLVED: None DOCKET NO: 05000

OPERATING MODE: 4 POWER LEVEL: 000

THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR SECTION:

50.73(a)(2)(v)

LICENSEE CONTACT FOR THIS LER:

NAME: J.P. Earl, Operations Projects TELEPHONE: (217) 935-8881,

Extension 4376

COMPONENT FAILURE DESCRIPTION:

CAUSE: X SYSTEM: EA COMPONENT: BRKR MANUFACTURER: W120

X IS GEN 0050

REPORTABLE TO NPRDS: N

N

SUPPLEMENTAL REPORT EXPECTED: NO

ABSTRACT:

On January 6, 1999, the plant was in Mode 4, and one of the two transformers that provide offsite power to the safety-related electrical buses was out-of-service for a scheduled outage. A fault occurred offsite on the feed to the in-service transformer, causing a loss of offsite power to the safety-related electrical buses. All three emergency diesel generators started and supplied the safety-related electrical buses. The cause of this event is attributed to a guy wire for an offsite power line pulling out of the ground causing the associated pole to lean. The leaning pole created a fault that tripped the line supplying the only source of power for the transformer that was feeding the safety-related electrical buses. The non-safety related electrical buses were unaffected by this event. Repairs were made to the faulted line, and the leaning support structure. Power was restored to the electrical supply line.

DESCRIPTION OF EVENT

On January 6, 1999, the plant Was in mode 4 (Cold Shutdown) with reactor [RCT] level being maintained between 70 and 100 inches, and temperature was being maintained between 95 and 115 degrees Fahrenheit. Reactor pressure was atmospheric. Residual Heat Removal (RHR) [BJ] "B" was in service for shutdown cooling. A Reserve Auxiliary Transformer (RAT) [XFMR] outage was in progress. The safety-related electrical power buses [BU] were being supplied by the Emergency Reserve Auxiliary Transformer (ERAT). The ERAT is supplied by a single 138-kV offsite power source. The non-safety related buses were being fed by the Unit Auxiliary Transformers through a separate offsite electrical supply feed.

At 1319 hours, the 138-kV supply to the ERAT was lost due to a fault on the electrical supply line feeding the ERAT. The loss of the electrical supply to the ERAT caused a loss of offsite power to all three safety-related electrical buses in the plant. Subsequent to this there was an automatic start of all three emergency diesel generators [EK]. The, containment and

drywell instrument and service air isolation valves [ISV] closed. The following equipment tripped: control room ventilation [VI], fuel building ventilation [VG], RHR "B" pump [P], and fuel pool cooling and cleanup (FC) [DA] pump.

At 1322 hours, containment instrument and service air [LF, LD] were restored.

At 1347 hours, control room ventilation and fuel building ventilation were restarted.

At 1403 hours, the restoration process for the RAT was started.

At 1413 hours, the in service reactor water cleanup system (CE) was put into decay heat removal mode. The reactor water cleanup system was in service prior to the event, remained in service throughout the event, and provided uninterrupted core circulation. The reactor water cleanup system was powered from the non-safety Unit Auxiliary Transformers.

At 1419 hours, reactor water cleanup was verified as an alternate method of heat removal land method for providing reactor core circulation as required by Technical Specification Action 3.4.10 A.1 and B.1 for loss of shutdown cooling.

At 1443 hours, operations personnel began clearing the safety tags associated with the RAT in order to bring it back in service and restore one source of offsite power to the safety- related electrical buses.

At 1600 hours, the RHR "B" system was started in the shutdown cooling mode of operation.

In order to prevent the accumulation of lube oil in the emergency diesel generator exhaust, additional loads were added to the Division 1 and 2 emergency diesel generators by starting the Division 1 and 2 shutdown service water pumps. These pumps were started at 1628 hours and 1642 hours, respectively. The High Pressure Core Spray (BI) pump was started at 1721 hours in order to provide additional load for the Division 3 emergency diesel generator.

At 1749 hours, the RAT was energized.

At 2131 hours, the Division 1 emergency diesel generator output breaker [BKR] was opened, and the Division 1 safety related bus was transferred to the RAT. At 2149 hours, the Division 1 emergency diesel generator was shutdown.

At 2210 hours, the Division 2 emergency diesel generator output breaker was opened, and the Division 2 safety related bus was transferred to the RAT.

At 2229 hours, the Division 2 emergency diesel generator was shutdown.

At 2306 hours, the Division 3 emergency diesel generator output breaker was opened, and the Division 3 safety related bus was transferred to the RAT.

At 2325 hours, the Division 3 emergency diesel generator was shutdown. All safety-related electrical buses were now supplied by offsite power.

At 2345 hours, the ERAT was re-energized.

During this event, some station equipment did not respond as expected.

During restoration of the ERAT the normal power fuses to the ERAT load tap

changer control power blew on "B" and "C" phases. The fuses were replaced. The backup generator [GEN] for the meteorological tower [IS) did not start as designed on a loss of power to the meteorological tower. Action request #F04565 was written to investigate and repair the generator. Circuit breaker VCB304 [EA] closed during restoration of offsite power. The charging motor for the charging springs continued to run and then immediately discharged. The circuit breaker was opened and the circuit breaker control power was removed. The 12-kV electrical power loop primarily supplies power to areas of the site outside the plant protected area. This did not affect any safety related equipment. Action request #F04564 was written to investigate and repair the circuit breaker.

CAUSE OF EVENT

The cause of this event is attributed to a guy wire for a pole for an offsite power line pulling out of the ground causing tile associated pole to lean. The leaning pole created a fault that tripped the line supplying the only source of power for the ERAT that was feeding the safety-related electrical buses.

CORRECTIVE ACTIONS

The power line pole was reset and new guy wires were installed. Power was restored to the ERAT electrical supply line.

ANALYSIS OF EVENT

This event is reportable under the provisions of 10CFR50.73 (a)(2)(V) as an event or condition that alone could have prevented the fulfillment of the

safety function of structures or systems that are needed to: Shutdown and maintain the reactor in a safe shutdown condition; Remove residual heat; or Mitigate the consequences of an accident. The loss of all offsite power to the safety-related electrical buses satisfies this reporting criteria.

TEXT PAGE 4 OF 4

Updated Safety Analysis Report (USAR) section 15.2.6, "Loss of AC Power," includes an analysis Of loss of all grid connections. This event is bounded within that analysis. The analysis assumes the plant is operating when the loss of grid connections occurs. The loss of offsite power event described in this report is less severe than the event analyzed in the USAR.

ADDITIONAL INFORMATION

A review of Licensee Event Reports submitted in the last two years did not uncover any other loss of offsite power events caused by a fault in the electrical transmission and distribution system not within the site boundary.

Onan Generator Model 5.0CCK-3CR failed to start and operate during this event.

Westinghouse 12-kV Type R Vacuum Circuit Breaker, serial number 75B145VB, did not operate properly during this event.

For further information on this event contact John Earl, operations Projects, at (217) 1935-8881 extension 4376.

ATTACHMENT 1 TO 9902100089 PAGE 1 OF 1 ATTACHMENT 1 TO 9902100089

ILLINOIS

POWER

An Illinova Company

Illinois Power Company

P.O. Box 678

Clinton, IL 61727

Tel 217 935-8881 x3900

Fax 217 935-4632

John P. McElwain

Chief Nuclear Officer

U-603152

2C.220

February 4, 1999

Docket No. 50-461

Document Control Desk

Nuclear Regulatory Commission

Washington, D.C. 20555

Subject: Clinton Power Station - Unit 1

Licensee Event Report No. 1999-002-00

Dear Madam or Sir:

Enclosed is Licensee Event Report (LER) No. 1999-002-00: Offsite Fault on In-service Offsite Electrical Supply Line Causes Loss of Offsite Power

to Safety-Related Electrical Buses. This report is being submitted in accordance with the requirements of 10CFR50.73.

Sincerely yours,

John P. McElwain

Chief Nuclear Officer

MRS/krk

Enclosure

cc: NRC Clinton Licensing Project Manager

NRC Resident Office, V-690

Regional Administrator, Region III, USNRC

Illinois Department of Nuclear Safety

INPO Records Center

*** END OF DOCUMENT ***